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L1: Entry 1 of 1 File: DWPI Aug 10, 1994

DERWENT-ACC-NO: 1994-250665
DERWENT-WEEK: 199431

TITLE: Sintered ceramic for highly stable thermistors - comprises iron-nickel-manganese oxide spinel

INVENTOR: FELTZ, A; SCHUSTER, H

PATENT-ASSIGNEE:

ASSIGNEE	CODE
SIEMENS MATSUSHITA COMPONENTS	SIEI

PRIORITY-DATA: 1993DE-4303414 (February 5, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 609776 A1	August 10, 1994	G	010	C04B035/00
JP 06263518 A	September 20, 1994		006	C04B035/00

DESIGNATED-STATES: AT BE DE DK ES FR GB IT LU NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 609776A1	January 27, 1994	1994EP-0101203	
JP06263518A	January 28, 1994	1994JP-0024929	

INT-CL (IPC): C04B 35/00; H01C 7/04

ABSTRACTED-PUB-NO: EP 609776A
BASIC-ABSTRACT:

A novel sintered ceramic, for highly stable thermistors, has the formula FezNixMn3-x-zO4 (where x = 0.84 to 1, and z = 0 to 1.6 exclusive). Prodn. of the sintered ceramic involves either (i) reacting MnOx and NiC starting materials (for an unstable material system of a nickel-manganese oxide spinel phase such as NiMn2O4) with iron oxide to form a thermodynamically stable spinel solid soln. which does not decompose on cooling in air; or (ii) calculating a mixt. of nickel carbonate, manganese carbonate or alpha iron (III) oxide by heating at above 600 deg.C in air and, after granulometric prepn. and press moulding, sintering in air or oxygen to produce the sintered ceramic body.

USE/ADVANTAGE - As an NTC semiconductor ceramic for thermistors and opt. as a thin film in a radiation sensor. The ceramic has high thermal stability and sensitivity. The process avoids conversion into a heterogeneous system during sintering and ensures prodn. of a stable NTC ceramic over a wide temp. range.

CHOSEN-DRAWING: Dwg.1/3

TITLE-TERMS: SINTER CERAMIC HIGH STABILISED THERMISTOR COMPRISE IRON NICKEL MANGANESE

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L2: Entry 2 of 2 File: DWPI Nov 22, 1996

DERWENT-ACC-NO: 1997-057934
DERWENT-WEEK: 199706

TITLE: Manufacture of thin film thermistor for temperature control sensor or overcurrent protection device - forming thin film layers having positive and negative temp. characteristic and comprising barium titanium oxide, covering with metal oxide layer and having titanium nitride barrier layer

PRIORITY-DATA: 1995JP-0109560 (May 8, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08306508 A	November 22, 1996		008	H01C007/02

INT-CL (IPC): H01 C 7/02; H01 C 7/04

ABSTRACTED-PUB-NO: JP08306508A
BASIC-ABSTRACT:

The manufacturing method forms four layers on a silicon substrate (6). The second layer (2) is a ceramic thin film of Barium Titanium oxide (BaTiO3) semiconductor with positive temperature coefficient of resistance. The second layer is layered with coupling in series or parallel, to obtain a thin film. The first layer is a thin metal film of Titanium Oxide (TiO3) with negative temperature coefficient of resistance.

The titanium contact layer (5) is formed on the silicon substrate. The titanium nitride barrier layer (4) is formed on the contact layer. The first and second layers are then formed on the barrier layer.

ADVANTAGE - High speed response. Small size. Incorporation of the thermistor in an integrated circuit provides self-protection by monitoring temperature rise in devices. For use in fault tolerant circuits. Eliminates the need for junction silver electrodes.

OXIDE SPINEL

DERWENT-CLASS: L03 V01

CPI-CODES: L02-D07; L03-B01A2;

EPI-CODES: V01-A02A1; V01-A02A5A;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1508S; 1925S ; 1989S

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C1994-113988
Non-CPI Secondary Accession Numbers: N1994-198102